

I claim:

- 1 1. An integral actuator, comprising:
  - 2 a frame constructed and arranged for securing an actuator
  - 3 motor having an output shaft, having a first at least partially
  - 4 closed chamber for receiving said output shaft, a bearing
  - 5 support for supporting a driven member, and at least a partially
  - 6 enclosed second chamber, and a passage connecting said first
  - 7 chamber with said second chamber;
  - 8 an actuator motor with a power output shaft, secured to
  - 9 said housing such that said power output shaft extends into said
  - 10 first chamber;
  - 11 a control circuit mounted in said second chamber, said
  - 12 control circuit having circuitry for selectively transferring an
  - 13 externally supplied electrical power, through said passage, to
  - 14 said actuator motor; and
  - 15 a power translation member connected to said output shaft.
- 1 2. An integral actuator according to claim 1, further
  - 2 comprising a cover secured to said frame such that said second
  - 3 chamber is substantially fully enclosed.
- 1 3. An integral actuator according to claim 2, further
  - 2 including a control circuit located in said first chamber, and a
  - 3 plurality of conductors extending through said cover, arranged
  - 4 such that when said cover is secured to said frame at least one
  - 5 of said plurality of conductors makes electrical contact with
  - 6 said control circuit.
- 1 4. An integral actuator according to claim 2 wherein said
  - 2 cover is removably secured.

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1 5. An integral actuator according to claim 3 wherein said  
2 cover is removably secured.  
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- 1 6. An integral actuator according to claim 4 wherein a  
2 structure of said frame associated with said second chamber  
3 includes at least one flexible clip receptacle, said cover  
4 includes at least one flexible clip, and wherein said cover is  
5 secured to said frame to form said substantially enclosed second  
6 chamber by said at least one flexible clip engaging with said at  
7 least one flexible clip receptacle.  
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- 1 7. An integral actuator according to claim 2, wherein said  
2 second chamber includes a support structure, and further  
3 comprises a control circuit supported by said support structure,  
4 wherein said control circuit is secured by a surface of said  
5 second chamber and by said cover.  
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- 1 8. An integral actuator according to claim 2, wherein said  
2 cover includes a receptacle support for receiving an external  
3 connector, and a plurality of pins extending through said cover  
4 in alignment with said receptacle support, and wherein said  
5 control circuit includes electrical contacts, constructed and  
6 arranged such that when said cover is secured to said frame said  
7 pins contact said electrical contacts.  
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- 1 9. An integral actuator according to claim 2, wherein said  
2 cover includes a receptacle support for receiving an external  
3 connector, and a terminal clearance hole extending through said  
4 cover in alignment with said receptacle support, and wherein  
5 said control circuit includes electrical conducting members  
6 extending in direction such that when said cover is secured to

7 said frame said electrical conducting members extend through  
8 said terminal clearance hole.

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1 10. An integral actuator according to claim 2, wherein said  
2 cover includes a connector through hole, and further comprising  
3 a connects extending through said through hole, said connector  
4 including a receptacle support for receiving an external  
5 connector, and a plurality of pins extending, each having an  
6 external connection terminal above a surface of said cover and  
7 an internal connection below said surface, said wherein said  
8 control circuit includes electrical contacts, constructed and  
9 arranged such that when said cover is secured to said frame said  
10 internal connection points contact respective ones of said  
11 electrical contacts electrical.

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1 11. An integral actuator according to claim 8, wherein said  
2 second chamber includes a support structure, and further  
3 comprises a control circuit supported by said support structure,  
4 wherein said control circuit is secured by a surface of said  
5 second chamber and by said cover.

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1 12. An integral actuator according to claim 9, wherein said  
2 second chamber includes a support structure, and further  
3 comprises a control circuit supported by said support structure,  
4 wherein said control circuit is secured by a surface of said  
5 second chamber and by said cover.

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13. An integral actuator according to claim 10, wherein said second chamber includes a support structure, and further comprises a control circuit supported by said support structure, wherein said control circuit is secured by a surface of said second chamber and by said cover.